

**CAS** 107-21-1

**Substance name** Ethylene glycol

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### **Toxicity**

Ethylene glycol causes fetal death and malformations when fed to rodents during pregnancy.<sup>1,2</sup> The National Toxicology Program concluded that “ethylene glycol may adversely affect human development if oral exposures are sufficiently high.”<sup>1</sup>

### **Exposure**

Ethylene glycol lowers the freezing point of water. It is used in antifreeze, in aircraft deicing fluids, and in condensers and heat exchangers. It is a chemical intermediate in the production of polyester compounds.<sup>1,3</sup> It has also been used as a glycerin substitute in commercial products such as paints, lacquers, detergents, and cosmetics.<sup>3</sup>

In two online databases ethylene glycol is listed as an ingredient in a diaper ointment<sup>4</sup> and in body wash/cleansers, acne treatment, athlete's foot treatment, hair color, hair conditioners, and a home hair perm kit.<sup>5</sup> Product testing for the Danish EPA detected ethylene glycol in balloons and tents.<sup>6</sup>

### **References**

1. U.S. Department of Health and Human Services, National Toxicology Program, Center for the Evaluation of Risks to Human Reproduction (CERHR) Monograph on the potential human reproductive and developmental effects of Ethylene Glycol. January 2004.  
[http://cerhr.niehs.nih.gov/evals/egpg/ethylene/EG\\_Monograph.pdf](http://cerhr.niehs.nih.gov/evals/egpg/ethylene/EG_Monograph.pdf).
2. REPROTEXT Thomson Reuters (Healthcare) Inc. File for Ethylene Glycol. Database Version 5.1 Greenwood Village, CO. (accessed 2009).
3. ACGIH: Documentation of the Threshold Limit Values and Biological Exposure Indices (Supplement), 6th ed, American Conference of Governmental Industrial Hygienists, Inc, Cincinnati, OH, 1996
4. National Institutes of Health, National Library of Medicine, Household Products Database. Accessed May 2010. <http://householdproducts.nlm.nih.gov/>.
5. Environmental Working Group. Skin Deep Cosmetic Safety Database. Accessed online May 2010. <http://www.cosmeticsdatabase.com/>.
6. Danish Ministry of the Environment, Environmental Protection Agency. Survey of Chemical Substances in Consumer Products, Report 46 and 89 (2005-2007).  
[http://www.mst.dk/English/Chemicals/Consumer\\_Products/Surveys-on-chemicals-in-consumer-products.htm](http://www.mst.dk/English/Chemicals/Consumer_Products/Surveys-on-chemicals-in-consumer-products.htm)